

BENCHMARK #2: RAILROAD SPIKE IN BASE OF POWER POLE 23.15' RIGHT OF STA. 19+51.00-BL- ; EL. 565.080

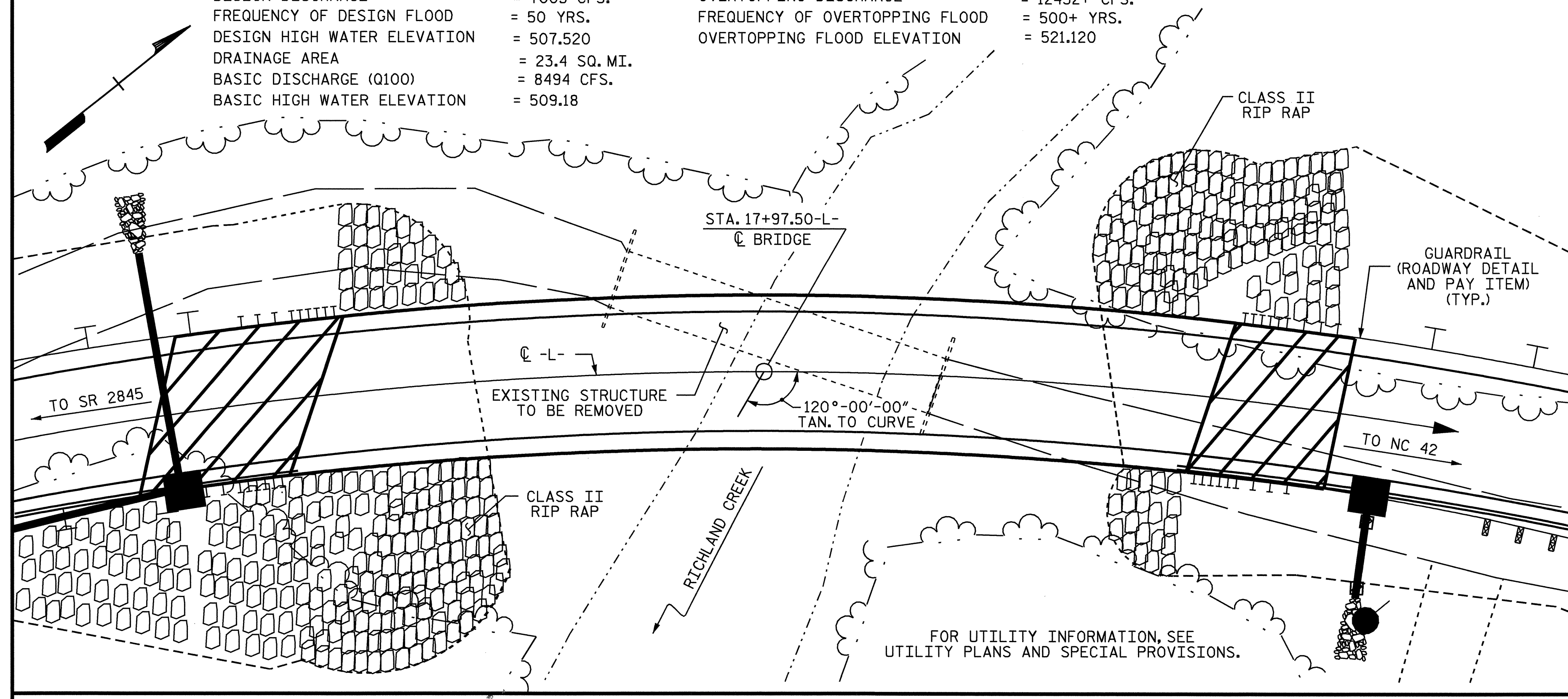
---NOTES---

HYDRAULIC DATA

DESIGN DISCHARGE = 7005 CFS.
 FREQUENCY OF DESIGN FLOOD = 50 YRS.
 DESIGN HIGH WATER ELEVATION = 507.520
 DRAINAGE AREA = 23.4 SQ. MI.
 BASIC DISCHARGE (Q100) = 8494 CFS.
 BASIC HIGH WATER ELEVATION = 509.18

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 12432+ CFS.
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
 OVERTOPPING FLOOD ELEVATION = 521.120



LOCATION SKETCH

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING.
 THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.

PRESTRESSED CONCRETE DECK PANELS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

THE EXISTING PAVEMENT WITHIN THE AREA OF THE END BENT PILES SHALL BE REMOVED AND THE ROADBED SCARIFIED TO A MINIMUM DEPTH OF 2'-0\"/>

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER, 1995.

THE SCOUR CRITICAL ELEVATION FOR BENT #1 AND FOR BENT #2 IS THE BOTTOM OF FOOTING. THE SCOUR CRITICAL ELEVATIONS ARE USED BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

PILES FOR END BENT #1 AND END BENT #2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.

STEEL PILE POINTS ARE REQUIRED FOR PILES AT END BENT #1 (LEFT SIDE) AND END BENT #2 (LEFT SIDE). SEE SPECIAL PROVISION FOR STEEL PILE POINTS.

PILE EXCAVATION SHALL BE UTILIZED TO INSTALL PILES TO EL. 510 AT END BENT #1 (RIGHT SIDE) AND TO EL. 503 AT END BENT #2 (RIGHT SIDE). SEE SPECIAL PROVISION FOR PILE EXCAVATION.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIPRAP USED IN THE CAUSEWAY MAY BE PLACED AS RIPRAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMPORARY ACCESS AT STA. 17+97.50-L-.

THE REQUIRED BEARING CAPACITY OF THE SPREAD FOOTING AT BENT #1 AND BENT#2 IS 5 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.

FOOTINGS AT BENTS #1 AND #2 SHALL BE CARRIED FULL DEPTH INTO ROCK WITH A MINIMUM THICKNESS AS SHOWN ON THE PLANS.

TO PROVIDE PROTECTION FROM POSSIBLE SCOUR THE FOOTINGS SHALL NOT BE CONSTRUCTED AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.

FOR BLASTING ADJACENT TO HIGHWAY STRUCTURES, SEE STANDARD SPECIFICATIONS ARTICLE 410-12.

EXISTING STRUCTURE CONSISTING OF A SPAN OF 62'-0\"/>

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STA.17+97.50-L-."

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AS UNCLASSIFIED STRUCTURE EXCAVATION.

THE CONTRACTOR MAY CHOOSE TO UTILIZE THE STANDARD OVERHANG FALSE WORK BRACING SYSTEM, SEE "STANDARD OVERHANG FALSEWORK" SHEETS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	FOUNDATION EXCAVATION	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS
	LUMP SUM	LUMP SUM	LUMP SUM	LIN.FT.	LIN.FT.	CU.YDS.	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM
SUPERSTRUCTURE						675	4918	5472		LUMP SUM
END BENT 1				30	12				31.4	
BENT 1			LUMP SUM						50.6	
BENT 2			LUMP SUM						47.0	
END BENT 2				31	10				29.0	
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	61	22	675	4918	5472	158.0	LUMP SUM

TOTAL BILL OF MATERIAL

	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	45" PRESTRESSED CONCRETE GIRDERS	HP 12 x 53 STEEL PILES	STEEL PILE POINTS	ONE BAR METAL RAIL (ANODIZED)	1'-0" X 1'-6" CONCRETE PARAPET	PLAIN RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS		
	LBS.	LBS.	NO.	LIN.FT.	NO.	LIN. FT.	EACH	LIN. FT.	LIN.FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE			12	635.89				309.85	325.23			LUMP SUM	LUMP SUM
END BENT 1	4203				9	90	5			335	370		
BENT 1	11236	928											
BENT 2	9966	632											
END BENT 2	3839				8	100	4			180	200		
TOTAL	29244	1560	12	635.89	17	190	9	309.85	325.23	515	570	LUMP SUM	LUMP SUM

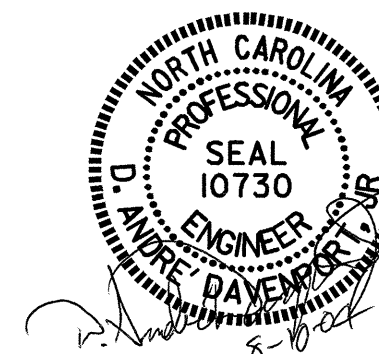
DRAWN BY : H. T. BARBOUR DATE : 5-6-04
 CHECKED BY : D. A. DAVENPORT DATE : 5-04

PROJECT NO. B-3506
 RANDOLPH COUNTY
 STATION: 17+97.50-L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 RICHLAND CREEK ON
 SR 2832 BETWEEN
 SR 2845 AND NC 42



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS 35
2			4			